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GIFFORD PINCHOT, Forester.

FOREST PLANTING LEAFLET.

HONEY LOCUST (*Gleditsia triacanthos*).

FORM AND SIZE.

The honey locust in the forest usually attains a height of from 75 to 100 feet and a diameter of from 2 to 3 feet, with a well-proportioned trunk and crown. Under favorable conditions it occasionally reaches a much larger size. In the open it produces a short trunk and a broad, open crown. The trunk and branches are armed with rigid spines from 3 to 4 inches long, which frequently grow in large clusters. These spines are occasionally objectionable, but can be removed by pruning if desired. Many trees are partially or wholly free from spines, and this form is, naturally, most satisfactory for shade purposes.

RANGE.

The natural range of the honey locust is from western New York south to Georgia, and west through southern Ontario and Michigan to eastern South Dakota, and thence south to Texas. It is found most abundantly on the fertile, gravelly hills of central Kentucky, where it is the predominant tree. However, it reaches its best development in the river bottoms of southern Illinois and Indiana, where it is intimately associated with hickory, elm, ash, boxelder, Kentucky coffeetree, basswood, and black walnut. It also occurs in the prairie groves in Illinois, associated with oak, walnut, and other species. At the western limit of its range it grows in rich, moist soil along the streams.

This tree may be planted on good soils throughout its natural range, but for economic purposes planting should be restricted to Iowa, Nebraska, Missouri, Kansas, western Oklahoma, northwestern Texas, eastern Colorado, and Wyoming. The honey locust is one of the hardiest trees for upland planting in the semiarid regions of the Middle West. It demands a rather deep soil, and usually fails on shallow ground where cedar and pine can be planted successfully.

HABITS AND GROWTH.

The honey locust does best and reaches its greatest size on the deep, rich soils of river bottoms. On gravelly or heavy clay soil it

does not grow so well. Soil containing lime is especially favorable for it. The common soil of the plains and prairie regions is well suited to it, and it thrives in western Kansas and Nebraska, where the rainfall is not more than half that of its native habitat.

It is very intolerant of shade, but has a tendency when not crowded to produce long branches near the ground, and hence it is an excellent tree to plant for hedges and windbreaks. In the Middle West the honey locust is equaled in drought-resisting power only by the Russian mulberry and Osage orange, and it endures severe winters to which these species would ordinarily succumb. The roots do not sprout unless they are injured in cultivation. It will stand cutting back when young, a quality which adds to its value as a hedge tree.

In favorable situations its annual height growth is from 1 to 2 feet, and its diameter increment from one-third to one-half of an inch. On the semiarid plains of western Kansas and Nebraska it will grow an inch in diameter in from three to four years.

Unlike the black locust, the honey locust is not injured by the borer and leaf miner. Thus far it has proved uniformly healthy wherever planted. Rabbits sometimes gnaw the bark of the young trees during the winter, but the trees soon outgrow this danger.

ECONOMIC USE.

The wood of the honey locust is coarse-grained, heavy, hard, strong, and fairly durable in contact with the soil. It is used chiefly for fuel, fence posts, and poles. But it is as a living tree that the honey locust serves the most useful purpose, since within its range other species can be grown which are more valuable for their wood but less desirable for permanent trees. It is useful for hedges and shelterbelts, and for general planting to improve the conditions of a naturally treeless region. Honey locust makes an excellent street tree, and it is increasing in favor for that purpose, especially in western towns.

METHODS OF PROPAGATION.

The honey locust produces seed abundantly and is easily propagated. The pods ripen in the fall. After they become dry and brittle the seed may be threshed out without difficulty. Where possible, seed should be gathered from thrifty plantations in the neighborhood, since trees grown from such seed are likely to be better adapted to local conditions than those brought from a distance. The seeds may be sown in the fall soon after they have been collected, or stratified in moist sand over winter and sown in the spring. If sown at the latter time, the seeds should be soaked in warm water until most of them swell. The swollen seeds should then be removed and the remainder again treated with warm water. Seeds which have become very dry may require soaking for two or three days.

Immediately after the swollen seeds are removed from the water they should be planted in moist, rich soil, in rows from 12 to 18 inches apart. After they have been covered with from one-half to three-quarters of an inch of well-pulverized soil, the dirt should be firmed with a roller or board. The seed beds should be kept moderately moist until germination is complete.

Seedlings a foot or more in height can be grown in one season. This is a satisfactory size for general planting. If a large number of seedlings are required, the planter should grow them himself rather than purchase them from nurserymen, since home-grown trees can be produced cheaply and dug and planted when conditions are most favorable. If the season is unfavorable for transplanting, the seedlings may be left in the nursery rows another year.

PLANTING.

Planting should be done as soon as the growing season begins. One or 2 year old seedlings should be used. In general, the most satisfactory spacing is 4 feet by 6 feet, but in localities where rainfall is light and extensive cultivation is necessary, 4 feet by 8 feet is more advantageous, because it permits of easy cultivation. If the planter does not intend to give the trees much cultivation he should plant closely, distributing the trees evenly over the ground and setting them near enough together to shade out the weeds.

CULTIVATION AND CARE.

Through the early years of growth frequent shallow cultivation should be given, particularly on the semiarid plains and prairies, both to destroy the weeds and to conserve the moisture. The cultivation should be continued until the trees are sufficiently large to shade out the weeds and grass. Live stock and fire should be entirely excluded from the plantation.

Approved.

JAMES WILSON,
Secretary.

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